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**CC-03 INSTALLATION GUIDELINES – 12V WIND TURBINE CHARGE CONTROLLER**

!!!! WARNING - SEVERE INJURY, DEATH, OR PROPERTY DAMAGE MAY OCCUR FROM THE IMPROPER INSTALLATION OR USE OF THIS PRODUCT. CUTTING EDGE POWER IS NOT LIABLE FOR ANY PERSONAL, PHYSICAL, OR PROPERTY DAMAGE INCURRED FROM THE USE OF THIS PRODUCT !!!!

*Always ensure all electrical wiring meets NEC and local code and always use an earth ground.*

**INTRODUCTION:** Thank you for your purchase. This charge controller is designed to engage and disengage excess power dissipation (dumping) from your wind turbine to protect your battery from being over-charged. It is designed to control the excess power dissipation by measuring the battery voltage of your system.

**HOW IT WORKS:** This charge controller package consists of a **control board and a 12 volt relay**. The larger contacts on the relay are normally open. When 12 volts is applied to the smaller contacts on the relay, the large contacts are closed and current is able to pass through the large contacts. In the general theory of this wind turbine charge controller, when current is allowed to pass through the large relay terminals, the current will continue through dump load resistors and the power dissipation is **"engaged"**. You can follow this in the wiring diagram supplied. If you do not have a copy of the wiring diagram, *please* send an email to [support@cuttingedgepower.com](mailto:support@cuttingedgepower.com) to request one. We would be more than happy to email you one to avoid damage to your system with improper use of this product.

You will be able to hear a click when the relay engages and disengages, so take note on where you should place this charge controller. (It might not be a good idea to mount it inside a cabin or bedroom). As with all other electronics, make sure to mount the charge controller in a **cool and dry area**.

**Please note:** This charge controller is designed to operate with a 12 volt battery **only**. It will **be destroyed** by 24V or 48V voltage. If you need to use this with a 24V or 48V system, you can do so by sampling only one (1) of the 12V batteries. This is not recommended but it can work if needed.

**PROGRAMMING:** Please refer to the wiring diagram for the terminals referenced in this section.

This unit will arrive pre-programmed. Changing the settings is not recommended.

When control board terminals "+" and "-" are connected to your 12V battery, the control board will be powered on. These terminals also provide a voltage sample to the controller which is used to determine when to engage or disengage dumping.

After these terminals are connected, you should see the battery voltage displayed.

The control board should have the following default settings:

Default charge controller settings	
14.2	High voltage (Dumping engaged)
12.9	Low voltage (Dumping disengaged)

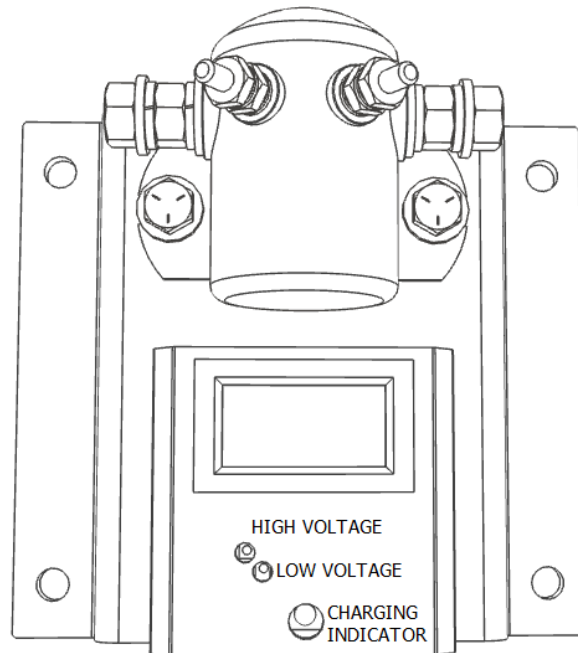
As stated before, leaving these default settings is highly recommended.

If you need to adjust these settings, you may do so using the 1/16 slotted fine adjustment screws from the front of the charge controller. There are two holes in the charge controller plate designed for you to access these adjustment screws.

**Take extreme care when turning these fine adjustment screws. Most adjustments only need around ¼ turn.**

The top screw adjusts the high voltage setting. This is the setting when dumping will be engaged. Clockwise is lower and counterclockwise is higher.

The bottom screw adjusts the low voltage setting. After the controller reaches the high setting, it will wait until the low voltage setting is reached to resume charging the battery. Clockwise is lower and counterclockwise is higher.



After reading this programming guide you may be inclined to think that the same voltage should be used as a high and low voltage. While that may work in an ideal world, setting them both to the same voltage would end up switching the relay back and forth continuously. Switching so rapidly would cause the relay to fail quickly. **So in conclusion a larger amount between the high and low voltage is better.**

As always, if you have any questions please don't hesitate to contact us through our website at <http://www.cuttingedgepower.com/about-us>. We typically answer all questions within 24 hours.

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